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ABSTRACT

Educators from six countries (Australia, India, Indonesia, Japan, Republic of Korea, and Thailand) offered descriptions of new developments in secondary education in their countries. The proceedings from the meeting is divided into six chapters: (1) Introduction; (2) Major trends and issues in secondary education; (3) Innovative models of secondary education; (4) A scheme for planning and evaluation; (5) Future co-operative action; and (6) Follow-up action by individual countries. Three appendices also are included: (1) Agenda; (2) List of participants and others attending; and (3) List of documents. (DB)

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IN SEARCH OF NEW MODELS OF SECONDARY EDUCATION

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IN SEARCH OF NEW MODELS OF SECONDARY EDUCATION

Report of a Task Force Meeting
Jakarta, Indonesia
26–31 July 1984

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Bangkok, 1985

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Chapter One

INTRODUCTION

A Task Force Meeting on Co-operative Development of New Models of Secondary Education was organized in collaboration with the Office of Educational and Cultural Research and Development (Balitbang Dikbud), Indonesia from 26 to 31 July 1984, within the context of the Asian Programme of Educational Innovation for Development. The meeting was attended by personnel responsible for, and involved in, the development of secondary education in six countries, namely, Australia, India, Indonesia, Japan, Republic of Korea and Thailand.

The Agenda covered the following:

1. Review of preliminary studies on secondary education prepared by the participants
2. Identification of innovative models of secondary education and development of a scheme for appraising and evaluating these models;
3. Preparation of plan for joint studies and suggestions on further co-operative action for development of new models of secondary education; and
4. Preparation of plan for future follow-up work by each individual participant

Organization

The meeting was formally opened by Professor Dr. Harsja W. Bachtiar, Head of the Office of Educational and Cultural Research and Development,

Ministry of Education and Culture, Jakarta, Indonesia. In his address, he welcomed the participants and spoke briefly on the development and future plans of secondary education in Indonesia. Professor Harsja W. Bachtiar emphasized the need in Indonesia for transforming the secondary schools into more flexible and more adaptive organizations and indicated that his country would very much welcome ideas from other countries where perhaps different systems have been developed. In developing models of secondary education, he offered a note of caution concerning the existence of variation within the country as well as between different countries. While emphasizing the need to give attention to the economic costs of these models, he hoped that the countries of the region would benefit from the exchange of their experiences in developing new models of secondary education.

On behalf of Unesco, Dr. H.K. Paik, Specialist in Training Educational Personnel, welcomed the participants, explained the basic features and objectives of APEID and reviewed the objectives of the Task Force Meeting.

The meeting was assisted in its work by the following officers:

Chairman	:	Prof. Dr. Conny Semiawan (Indonesia)
Vice-Chairman	:	Dr. Yung Dug Lee (Republic of Korea)
Rapporteurs	:	Dr. R.P. Singhal (India)
		Dr. A.S. Ryan (Australia)

Method of work

Country study reports on secondary education were presented by the participants from India, Republic of Korea, Japan, Indonesia, Thailand and

Australia. The presentations were followed by an intensive review and discussion.

The meeting identified the following items for in-depth discussion: (i) current issues and trends in secondary education; (ii) identification of innovative models; (iii) proposals for appraising and evaluative models; (iv) general guidelines for further co-operative development of new models of secondary education; (v) plans for further co-operative action; and (vi) development of outlines and schedules for future follow-up work by the participating countries.

The report which follows was prepared jointly by the members of the Task Force. A draft of the report was considered in the final session of the meeting and was adopted subject to minor modifications. These modifications have been incorporated in the report.

Chapter Two

MAJOR TRENDS AND ISSUES IN SECONDARY EDUCATION

Each of the participating countries is currently engaged in the reconstruction of its secondary education. It was very interesting, indeed, to note that a lot of thinking is being done in these countries to make secondary education more meaningful. The major trends and issues may be broadly classified into the following areas.

1. Restructuring of education including secondary education
2. Social relevance of secondary education
3. Curriculum modernization
4. Linking education with productivity
5. Human resources development
6. Planning and management of the system

1. Restructuring of education including secondary education

In India, the Secondary Education Commission (1952) had suggested an 11-year pattern of higher secondary classes. i.e. eight years of elementary education followed by a 3-year integrated higher secondary course and a three-year Degree Course. The Education Commission (1964-1966), however, thought it proper to recommend a 10+2+3 pattern of education, i.e. 10 years of general education, two years of diversified higher secondary education and three years of the first degree course. This was broadly accepted as a national policy in 1968. Most of the States and Union Territories of India have since changed

over to the new 10+2+3 pattern. The secondary stage consists of classes IX to XII, of which IX and X form part of general education and classes XI and XII comprise the senior secondary stage, popularly known as the "Plus two" stage.

By and l[illegible], the 'plus two' stage is located as a part o[illegible]hool system; but there are States where the '[illegible]wo' stage is located in colleges or in both schools and colleges. The National Policy on Education (1968) laid down that the 'plus two' stage may be located in schools or colleges or both depending upon the administrative convenience of the States.

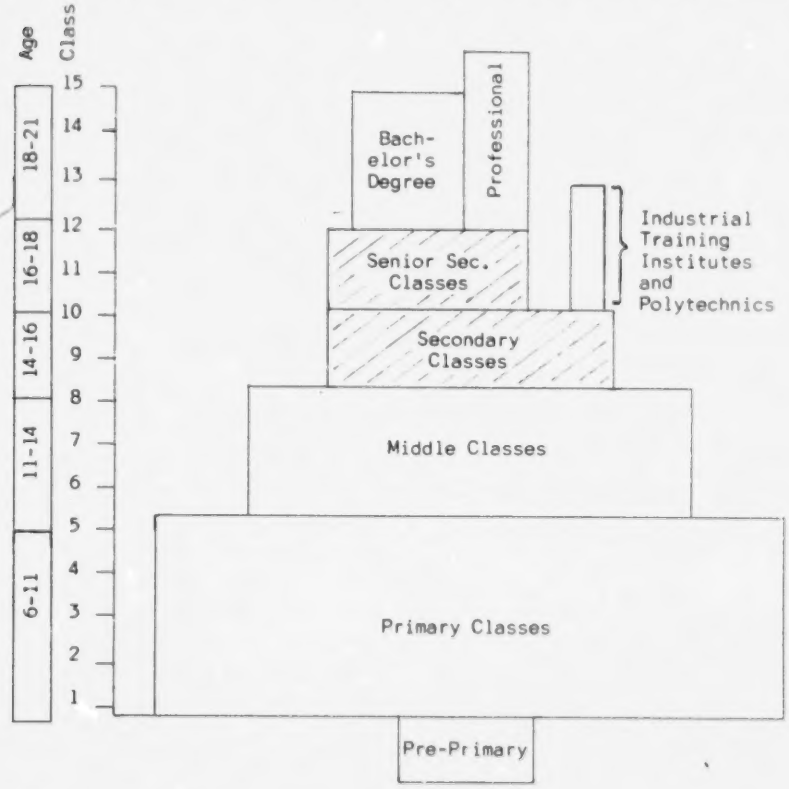

Fig. 2.1.

New models of secondary education

In the states which have not yet adopted the new 10+2+3 pattern, the pattern of education is either 11+3 (11 years of schooling and 3 years of degree) or 10+1+3 (10 years of school, one year of Pre-University Course (PUC) and 3 years for the first degree). There is a strong move to have a broadly uniform pattern of education throughout the country.

The age of entry to class IX is 14+. To class XI, it is 16+. There is no maximum age for these classes but generally the over-age students pursue a non-formal channel through evening schools, correspondence course or Open Schools.

In **Thailand** currently, only 48 per cent of students who complete their elementary education enter the secondary level. The Department of General Education plans to extend more opportunity to those in the rural remote areas. Fifty new small secondary schools are being built annually. There is also a proposal to make the three-year lower secondary education compulsory but a large amount of funds wil be needed. So the government has not agreed on the movement yet.

New curricula have been implemented since 1978. The first cycle was completed in 1984. Evaluation has been periodically conducted. The quality of education was still not considered satisfactory and there was considerable disparity of quality among the different educational regions and between urban and rural communties. Attempts have been made to improve the quality of eudcation and to reduce the disparity through projects such as the diversified secondary schools, the School Mapping and the School Academic Planning. School Academic Audits and National Assessments are conducted every year as part of an overall achievement monitoring systems.

Japanese secondary education consists of compulsory lower secondary school (grades 7-9) and non-compulsory upper secondary school (grades 10-12).

Nowadays, as much as 94 per cent of lower secondary graduates go on to upper secondary.

The **Korean** secondary education system is composed of two types of schooling, one more formal than the other. The formal secondary school system is composed of three-year middle schools beyond six years of elementary school, and three-year high schools. High schools are further divided into general high schools, vocational high schools. The less formal secondary school system is composed of civic high schools, in-plant high schools and the high school of the air and correspondence. Civic high schools, very few in number, are a kind of community institution to provide high school education for those who missed attending formal high schools. In-plant high schools are established in industrial plans for the purpose of providing a high school education programme for the workers who missed attending formal high schools. The high school of the air and correspondence has been in operation for the past 10 years with great success in providing high school programmes to those who either missed attending formal high school or who wish to refresh their past learning.

Approximately 95 per cent of the age group attend the formal middle (junior high) schools and about 75 per cent of the school age group attend the formal high schools. The ratio of general high school students to those in vocational high school is about 6 to 4 in favour of general high schools.

The highest priority in secondary education is given to the general citizenship education with great emphasis on moral development. On the foundation of general citizenship education the middle school provides students ample opportunity to explore their potentialities and aptitude for future choice of work. High schools are endeavouring to provide varied programmes to suit individual needs of students

In **Indonesia** educational structure is composed of 1 to 20 years of pre-school classes, six years of

elementary school, three years of junior secondary school, three years of senior secondary school, and four to seven years of tertiary education. The secondary schools consist of general secondary schools and vocational secondary schools. The decade before the 1950s when the first increases in numbers of enrollment began to make their appearance, the educational systems were not only small in size, but they also catered to a relatively homongeneous clientele, drawn to a large extent from the economically better-off sectors of the urban population, and the very affluent among the rural people who are few in number and generally used urban educational facilities for their children.

This does not mean that the urban poor and the not very rich rural population were completely denied education, but the provision for them was quite inadeqiate.

In **Western Australia**, the secondary school, grades encompass grades 8-12. The first three of these (grades 8-10) complete the compulsory period. of universal education. Approximately 20 per cent of students leave formal education at this point to enter the unskilled work force. A further 15 per cent enter into apprenticeship and other vocationally specific training in the Technical and Further Education (TAFE) Colleges. The remaining 65 per cent continue into the upper secondary school (grades 11, 12), in one-year terminal courses (10 per cent) or two-year academic programmes (55 per cent) aimed at preparation for tertiary studies. Some 15 per cent of students who enter the two-year courses drop out before finishing grade 12.

2. Social relevance of secondary education

In **India**, there is a strong opinion that education has to be relevant not only to the individual's needs but also to those of the society. Secondary education which provides for general (basic) education through core curriculum in the lower secondary stage

and diversified studies in the higher secondary stage has continually to review its curricula so as to incorporate the rapid changes that are taking place in society and also the changes occuring due to the explosion of knowledge and new advances in science and technology. Besides, the curricula must be able to foster proper values in the young minds so that they imbibe appropriate attitudes. In order that secondary education is able to meet social needs, it is felt that it must, inter alia,

- evolve such curricula as are relevant to the needs, aspiration and activities of the people
- provide non-formal and continuing education opportunities (by way of part-time or evening schools) for dropouts and working persons
- set up open systems such as Open Schools and correspondence courses to provide for own time education
- use advanced technologies such as INSAT, radio and TV for mass education
- introduce indigenous, improvised teaching aids
- modernize curricula, tecaching and evaluation practices by introducing computer science, population education, environmental education, value education, etc.
- introduce project work
- make work and community service an integral part of the curriculum

In order to make learning programmes responsive to the social demand, the School Academic Planning scheme in **Thailand** is being introduced to all secondary school principals. The scheme starts with identifying the critical needs of the school. Results of the National Assessment are reported back

to the school to provide a school academic profile as part of the basic data. Community survey by the school are encouraged and the results are then available as another part of basic data. Objectives of school programmes will be formulated from these sources of information. The curriculum will be used as a core of the programme and schols are encouraged to modify and diversify the learning programme according to locally identified needs.

In order to respond to the challenge of economic development policy and social change the curriculum of high schools in **Korea** is kept flexible. There has been a trend toward linking secondary education with practical work. Vocational education is considered in Korea as a process of orienting students to the world of work as well as a process of facilitating the total personality development of students.

Most parents in **Indonesia** tend to push their children to pursue education to the highest level without considering their children's interest and aptitude. For example, while more than four hundred thousand general secondary school graduates took the higher education selection test this year (1984), only about 40 per cent could be accepted. In the context of providing more opportunities for further education and promoting professional competencies the government has introduced the Open University for new school leavers and people who are already working. To encourage general secondary school graduates to take programmes related more directly to the world of work, more flexible programmes, intensive career guidance, and parent information services have been introduced.

3. Curriculum modernaization

One of the basic objectives of the new 10+2+3 pattern in **India** was to provide an opportunity for the States and Union Territories to reconstruct their curricula and modernize teaching-learning process. A national level study of the 10+2+3 pattern, conducted by Dr. R.P. Singhal in 1983, has shown that the

pattern has enabled several States and Union Territories to introduce the new syllabi in classes IX and X as a part of general education. As envisaged in "Curriculum for the Ten Year School - A Frame-Work" evolved by the NCERT (1975), science and mathematics are now essential components of the core curriculum besides social studies. Work Experience or Socially Useful Productive Work (SUPW) is also an integral part of the curriculum up to class X. Physical and health education are compulsory and form part of general education. Stress is laid on environmental education, population education, national integration etc. In the light of the experience gained, and keeping in view the recommendations of the National Review Committee on Secondary School Curriculum (1977), suitable modifications have been made in the curriculum for classes IX and X. The curriculum for classes XI and XII provides for one compulsory language and four elective subjects either from the academic spectrum or from the vocational spectrum or from both. There is generally no exam for entry to class IX. All students who have qualified in class VIII are eligible for admission to class IX. For class XI, admissions are normally based on the results obtained by the students in the School Exam conducted at the end of class X by the Boards of School Education. At the Plus two stage (i.e. for higher secondary classes XI and XII), new syllabi for arts, sciences and commerce are in vogue. The National Review Committee for Higher Secondary Curriculum (1978) suggested vocationalization of higher secondary education by providing a vocationalized spectrum along with the academic spectrum in classes XI and XII. It laid emphasis on non-technical vocational courses for general higher secondary schools so that there is no duplication with Polytechnics and Technical Schools. It recommended a number of new vocational courses to be undertaken by higher secondary school e.g. agriculture related vocational courses, and courses related to trade and commerce, home science, insurance, tourism, publishing, advertising, beautician's courses etc. Vocationalization of higher secondary education is now given a major thrust.

New models of secondary education

At the lower secondary level in Thailand, students have to earn at least 85 units, 72 of these being in compulsory units organized in 5 groups -- Languages, Sciences-Mathematics, Social Studies, Personality Development, and Work-Oriented Education. Courses in each of the groups are both required and optional. Varieties of courses are offered in response to individual needs and rate of development.

At the upper secondary level, students have to earn at least 75 units. Thirty-six of these are compulsory -- 6 for Thai, 6 for Social Studies, 6 for Sciences, 6 for Health and Physical Education and 12 for Work-Oriented Education. For Work-Oriented Education, students can choose any one of the six areas, Industrial Arts, Agriculture, Home Economics, Business Education, Arts and Craft, and Art Education. Students can choose to take elective programmes either in academic areas or in vocational scheme I and II. Those who take the vocational schemes are paid higher when they enter the job market than are those who take the academic programme.

Although industrial arts and home economics are compulsory subjects at lower secondary schools in Japan, their aim is not directed at the mastery of professional skills.

Upper secondary school is composed of (i) academic or general courses, (2) vocational courses and (3) other specialized courses. In 1982-1983, out of about 5,200 schools, 30 per cent offered both (1) and (2) or (3), 50 per cent offered only (1) and the remaining 20 per cent offered only (2) or (3). Almost all of the above plural course schools are not comprehensive schools, because they require the choice of course in advance.

For upper secondary students to graduate, it is necessary to complete at least 80 units within three years (full-time courses) or in four or more years (part-time and correspondence courses). In the case of academic or general courses, all of the 80 units come from general subjects, whereas the total consists of 50 units of general subjects plus 30 units of

vocational and other specialized courses.

Regarding the remedial actions of the secondary schools curricula of **Indonesia**, the so-called 1984 Curriculum has commenced implementation in the first grade of the Upper General High School (SMA), to be followed by the second and the third grades successively in the next years. The curriculum consists of two major kinds of programmes, that is, core programmes and elective programmes oriented to the specific target groups. The core programme, consisting of required subjects for all students, is designed to meet the minimal requirements of knowledge, basic skills, and right attitudes. The electives encompass several different kinds of programmes to cater to the needs of different target groups, according to the demands of the local regions and taking into consideration the potential of the individual. These elective programmes are classified into two categories of programmes, i.e. Programme A and Programme B.

Programme A is meant primarily to prepare students who have the ability required for further study at the higher learning institutions, especially the universities and insititutes. The programmes belonging to this category include the Physical Sciences Programme, Biological Sciences Programme. Social Sciences Programme, and Cultural Knowledge Programme, which are related to the four fields of studies known at the higher learning institutions, namely Physical Sciences, Biological Sciences, Social Sciences, and Culture.

Programme B is intended for the students who have the interest and aptitude to take various kinds of intensive studies relevant to other settings of life in the community. The programme is geared primarily to preparing students for employment directly upon completion of SMA education as well as those who wish to go to academies, polytechnics, and other

non-degree programmes, before working. Programme B includes programmes on industrial technology, computers, agriculture and forestry, services, family welfare, maritime and culture. Each programme offers both (1) general/academic subjects as the basis for the particular vocations concerned and (2) vocational subjects relevant to each respective programme.

The planning of core programmes and Programme A is mainy the responsibility of the central office of education, while the planning and management of programme B is entrusted to the respective provincial offices of education. Better co-operation between the provincial office of education and the other relevant government and private institutions will need to be established so that the programmes can be implemented smoothly and effectively.

In **Western Australia** the current pattern of core-plus electives in the lower secondary grades is to be replaced by a new structure of seven equal-status curricular areas. The seven proposed areas which are to be studied by all students, are

Language and Communication
Social Studies
Mathematics
Science and Technology
Phisical and Health Education
Vocational and Personal Awareness
Practical and Creative Arts

In order to guarantee a suitably balanced programme it is intended that school timetables will be so organized that at any one time each student will study at least one subject from each grouping. Curricular committees have been asked to structure courses within their respective curricular areas so that sequences of units which demand sustained and rigorous study to significant depth are available.

Subjects which have improved status under the

proposed model, and some which will be introduced for the first time, will include

Languages other than English
Religious Studies
Design Education
Sex Education
Decision making
Moral Education - Values and Ethics
Peace Studies

Themes which are expected to apply across the curriculum (i.e. to be a dimension of emphasis by all teachers) are

Literacy and Numeracy
Computer Awareness
Pastoral Care and Student Welfare
Research and Information Skills
Life Skills

It is also proposed to loosen the present pattern of chronological promotion by introducing a system of criterion referenced assessment such that promotion will be based on demonstrated mastery. To allow this to operate independently for each subject, schools will implement vertically organized timetables such that a student's rate and extent of rogress can vary from subject to subject.

4. Linking education with productivity

In **India** the importance of secondary education to prepare manpower for economic development will be far greater in the years to come than it is today. Education cannot confine itself to the role of merely promoting, imparting or generating knowledge. It must also serve to develop the human resource in such a way that it promotes economic growth. It must provide an important input to national development.

The education-productivity link will help to ensure that the produce of secondary education is

suitable to enter the world of work. This calls for:

- linking education with work
- vocationalization of higher secondary education on a larger scale keeping in view the regional/ local needs
- providing opportunities for apprentice training or on-the-job training for a period which may vary depending upon the requirements of the skill development
- entrepreneurship training to enable students to take up self-employment or managerial responsibilities in jobs or vocations
- strong co-ordination and linkages with employing agencies in matters of planning curriculum, teaching techniques, evaluation and certification
- making provisions for vertical mobility of the students who having passed with vocationalized higher secondary education certificate wish to pursue further studies
- an attitudinal change on the part of those who are concerned with implementation of the work-oriented education.

The stage has already been set with the National Development Council recently stressing Food, Employment and productivity as the three basic tenets for preparation of the overall Seventh Five-Year Plan. The education sector obviously has a great responsibility to achieve the objectives of the Seventh Plan in close collaboration with the other sectors of development. Moreover, socially-useful productive work having been already approved as an integral part of core-curriculum up to lower secondary stage and the need to vocationalize higher secondary education (plus two stage) having been already recognized, the education-productivity link model would help to realize the goal much faster.

The comprehensive schools in **Thailand** were designed to offer a learning experience relevant to vocational areas in the local communities. The programme consists of many alternatives that students could choose according to their individual interest, aptitude and ability. It is anticipated that those who graduate from the comprehensive secondary schools will be equipped to go directly into the world of work in the local communities.

Incentives are provided for those who are taking the vocational programme in the upper secondary schools. Those who take a vocational programme will be paid higher when they get a job than will those who take an academic programme. Five vocational areas are being offered. They are Indusrtrial Arts, Agriculture, Home Economics, Business Education, Arts and Crafts, and Art Education.

In **Japan**, out of the 4,600,000 upper secondary students in 1982, about 70 per cent are in academic or general courses, 29 per cent in vocational courses and 1 per cent in other specialized courses.

As a result of the rapid change in the industrial structure, continued technological progress, and also of upward shift in the educational credentials of new entrants into the workforce, vocational courses at senior high have lost the glory of the early 1960s. In 1960, more than 40 per cent of students attended these courses but now this rate has fallen to a little less than 30 per cent as stated above. Nowadays, their primary function is, along with the bottom groups of general courses, to secure for their students manual or lower clerical or sales jobs in the local markets on the one hand, and to supply to local industrials those docile workers who are trainable in each company's employee training system, on the other hand. But continued progress of FA (Factory Automation) and OA (Office Automation) have begun to deprive students at these courses of their share of jobs and their chances of getting into good employee training systems

New models of secondary education

Although about 40 per cent of general course graduates in 1982 went on to higher education institutions (universities and junior colleges), the majority of these come from the upper strata in the general course schools. On the one hand, it is a big problem that a majority of general students enter into employment without any vocational preparation. But, on the other hand, it is equally a big problem that job openings themselves for upper secondary graduates are beginning to shrink.

It is not without reason, therefore, that more and more general students have come to head for special training schools after graduation. Since their legal recognition as a part of the school education system in 1976, special training schools have grown into a major wing of post-secondary education alongside the traditional sector of higher education institutions.

But the essential feature of the special training school sector is its vast variety. Some of these schools have secured a steadfast place in the labour market as a supplier of sub-professional skills in such areas like engineering, hygiene, paramedics, education and social services. But some of them are extremely unstable in this respect. Along with the vast number of these schools (2,804 as against 455 universities and 526 junior colleges in 1982), this variety causes a critical lack of well organized information and leaves upper secondary guidance activity in serious confusion.

Special training schools are mostly privately owned and receive minimum public control in such matters as buildings, equipment, qualification of teachers and so on. On the one hand, it is the source of these schools' flexibility and adaptability to the new developments of market needs. But, on the other hand, it results in the vast variety in the quality of education and training, students' fees and other expenditure, students' career opportunities after graduation, and the like.

In contrast, both public and private upper secondary schools are under strict public control as regards the above stated respects. On the one hand, this guarantees a common minimum standard and uniformity in the quality of education and so forth. But, on the other hand, it hinders upper secondary curricula from adapting quickly to the new needs of the labor markets.

These are the real dilemmas Japan faces as regards vocational or specialized education at the upper secondary or post secondary stages. A realization of this dilemma is urgently needed. No one knows yet whether the following policies can lead to such resolution but they are beginning to be put into words or practice.

These are:

1. The updating of vocational subjects (introduction of information processing, for instance)
2. The introduction of specialized courses other than traditional vocational ones (athletics, theatrical performance, cookery, sight-seeing, and the like)
3. The development of comprehensive schools (which provide general or academic courses combined with updated vocational courses and other specialized courses)

With regard to vocational education in **Korea** which is emphasized in both general high schools and vocational high schools), arguments for basic vocational education versus specific skill training have long been an unresolved issue for the past quarter century. However, there is now a clear tendency to place more importance on general or basic vocational education than on specific skill training. Specific skill training that is required for particular jobs is increasingly provided outside the formal school. Various public and private training institutions are taking over from schools the responsibilities of specific training.

New models of secondary education

In **Western Australia**, secondary education is seen primarily as general education, although there is now increasing emphasis within the curriculum on vocational and personal awareness. Secondary schools concentrate on those basic skills and social and intellectual competencies that are clearly relevant to all future occupations as well as further formal study. Vocational education has traditionally been provided through the separate Technical and Further Education (TAFE) Colleges which receive students for apprenticeship training after grade 10 of secondary school. However because of changes in the need for apprentices and the financial recession in industry, relatively few secondary students have access to this avenue of vocational preparation. The upper secondary schools thus include increasing numbers of students who are more interested in a vocationally relevant experience within a broad general education rather than the academic curriculum traditionally offered in the upper school. The Beazley Committee of Inquiry (1984) has reccomended closer links between secondary schools and the TAFE Colleges such that senior secondary students may attend TAFE Colleges to study vocational units as part of their overall secondary school curriculum.

5. **Human resources development**

Training of personnel is considered in **India** to be vital to the raising of their efficiency. A number of inservice courses for teachers are being organized by the NCERT and other agencies throughout the country for orientation of secondary school teachers in the new content of curricula, teaching techniques and other procedures. The National Institute of Educational Planning and Administration (NIEPA) is engaged in a big way in the training of educational planners and administrators. The training is cadre based as well as thematic. It covers different levels of functionaries ranging from school heads to senior educational administrators at the State level. The duration of training programmes varies from 2 weeks to six months. Among the various training programmes which are organized by NIEPA, a special mention

may be made of the six-month Pre-Induction Programme for Training of District Education Officers leading to Diploma in Educational Planning and Administration. Out of six months, three months are devoted to intensive curricular training in NIEPA and the remaining three months are spent by the participants doing supervised project work on-the-job. The training courses of NIEPA have been instrumental in raising the capabilities of the officers in educational planning and administration at different levels. States and Union Territories have to prepare a systematic plan of training their educational personnel -- both teachers as well as educational planners and administrators -- in order to raise the internal efficiency of the system and to improve the quality of secondary education.

Moral education is considered to be an essential part of all learning programmes in **Thailand**. It is the aim of education to promote the development of person suitable for the democratic society.

In order to build the good citizen, students have to acquire the following qualities:

a) Being a member of human society

b) Being a member of civilized society

c) Being a member of productive society

d) Being a member of a good home

e) Being a good member of community and country.

In order to assure these qualities, one has to exhibit the following attitudes and behaviours:

a) Kindness to other persons

b) Appreciation of art and music

c) Holding moral and honest job

d) Maintaining a happy home

e) Participating productively in community and country development

New models of secondary education

It is the main purpose of education to develop a mature and adequate personality for all citizens.

In **Indonesia**, provision of teachers has always been a major problem throughout the history of education. The number of teachers produced by the teacher training institutions has never been able to catch up with the growing numbers enrolling at all levels of schooling. Various means of solving the problems have been taken by the government, such as:

a) establishing various kinds of teacher education/training programmes;

b) optimalization of the existing teacher education institution, so as to accommodate more teacher candidates;

c) reemployment of retired teachers;

d) developing a system to attract more secondary school graduates to become teachers; and

e) inviting participation of private sectors, parents and society at large in educational implementation.

6. **Planning and management of educational system**

In **India**, a lot of attention is now being given to proper planning and management of the educational system. Effective planning and management is the key to maximizing the scarce resources available. At the secondary level the following strategies are considered to be important:

- Integrated district level planning taking into consideration the total educational needs of the area as well as the infrastructural facilities, schemes and programmes of other developmental authorities.

- Linking formal, non-formal and adult education.

- Modernizing inspection and supervision practices at the secondary stage with the help of tools for grading of schools, etc.
- System of monitoring and evaluation based on Management Information System.
- Stress on non-monetary inputs and community involvement.
- Autonomy to some schools.
- Training of teachers, institutional heads and educational planners and administrators.

Planning in **Thailand** is being done at the local level. Schools are encouraged to do their own need surveys and to use achievement profile in programme formulation. Monitoring is done at the provincial level. The use of Quality Control Cycles was introduced to all secondary school principals last year (1983) and will be repeated in 1984-1985.

Principals and administrators are urged to pay more attention to the quality of education rather than the physical development of the school plant. The Management Information Systems in Education is being installed. It is anticipated that decision making concerning education policy and practice will be more effective.

In **Korea**, the inadequacy of the high school programmes is still a problem. While geneal high schools are failing to provide adequate vocational education to the terminal students, vocational high schools are failing to provide adequate academic programmes. In order to resolve these problems an alternative high school model is proposed for implementation. The proposed alternative is known as the 'integrated high school model'. A brief description of the model appears in Chapter Three of this report.

An overall evaluation of the existing school curricula at primary and secondary education levels

in **Indonesia** has revealed a number of weaknesses and strengths. Among the weaknesses are (i) some of the subject matter in the curriculum is not suited to the student's learning ability, and (ii) the curriculum for certain subject areas at a number of grade levels is overloaded. In developing the new curriculum, selection and reorganization of curriculum content are following criteria that have already been developed. This will make it possible for teachers to use more motivating or appealing teaching strategies so that the children can express themselves more readily through word or actions. The teaching learning process, therefore, will be able to give more emphasis to the way children learn, rather than to what they learn. This is one way of making them more accustomed to thinking creatively. In the framework of curriculum implementation, the Indonesian government has provided appropriate teaching learning facilities to bring about a school atmosphere that is more conducive to effective teaching and learning.

Chapter Three

INNOVATIVE MODELS OF SECONDARY EDUCATION

Innovation and change are essential elements of develoment, more so of educational development. Different countries are in the process of developing new innovative models of secondary education based on their past experiences and new demands of the society. The innovative models of the participating countries are outlined below:

Republic of Korea

The integrated high school as a proposed new model of secondary education in the Republic of Korea

1. Organizational structure

The basic model for the integrated high school may take a variety of forms according to regional characteristics and school type distribution within a district (or a specific area). Although there is no specific distribution pattern set, the integrated high school, (depending on existing type distribution and regional characteristics) may be categorized into farm and maritime type, urban type (I, II) and combination type for a particular setting (industrial complex). Despite the variance in model types, the common basic assumption is that the management of the curriculum will be the same. In other words, various curricula are integrated and provided according to students' capacity, aptitude and aspirations and that horizontal transfer among courses is allowed.

Existing general and vocational high schools in each district (particularly in city units) should be related so that, even though separated geographically, they will be considered part of the one integrated

high school cluster. Thus in large cities, several such integrated sub-systems may exist: in small cities, a single system may be formed. When a new high school is to be built in a given region, its establishment is considered within the context of the integrated system already operating in that region to ensure a balanced placement. The following are integrated high school (cluster) system models for different regional characteristics.

a) Farm and maritime integrated high school: Intra-school integration

This type calls for establishing and managing various kinds of courses in a single high school. In appearance, it is much like the traditional comprehensive high school, but it differs greatly in a number of important respects. Since courses offered should reflect the regional characteristics and needs of students (and/or parents), the actual course set-up may differ from school to school. In general courses may be divided into two groups: one that reflects the regional characteristics and the other for college entrance. In other words, concurrent development of programmes of humanities, social science and natural science for college entrance and, social and practical courses for job placement must be sought. The model is shown in Figure 3.1. When expanding an existing high-school, faculty, recruitment for additional major courses along with the required expansion of basic facilities must precede the expansion.

b) Urban type integrated high school (I): Vocational high school oriented integration

This is an integration of a number of general type high schools with a vocational high school offering various courses that meet the educational needs of the community. There is a high probability that this type of integration would occur when a vocational school is to be newly established in a district where most schools are that of a general high

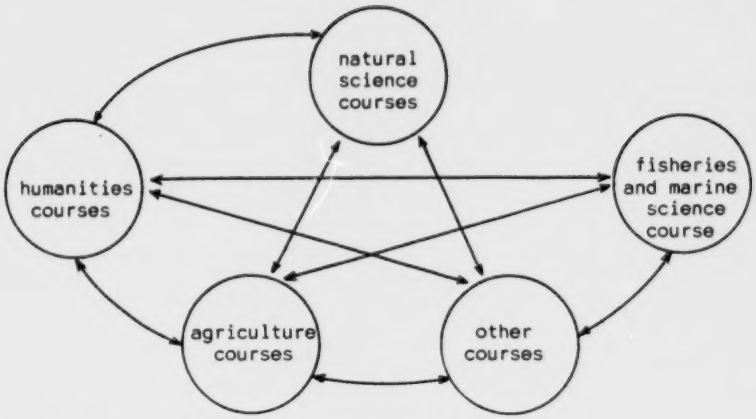

Figure 3.1. Farm and Maritime Integrated High School: Intraschool Integration

school or in a region where the number of general high schools is dominant and vocational few.

In this type of integration, the non-academic student (those not planning to go to college) will transfer to vocational high schools from the second grade, making the vocational high school the centre of vocational education in the integrated high school system. This type of integrated system is shown schematically in Figure 3.2.

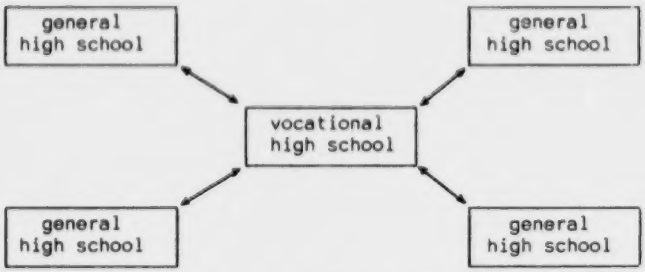

Figure 3.2. Urban type Integrated High School (I): Vocational High School Oriented Integration

Integrated high schools, whether newly established or existing, should analyse the educational needs of students and the community in question, then develop a long range educational plan before offering particular vocational courses.

c) Urban type integrated high school (II): General high school cluster centered integration

This is the opposite of the Type (I) system discussed above. Type (II) integration, a number of vocational schools are related to a single general high school in the form of an integrated cluster. In special districts of large cities, or in small cities where vocational schools are many and varied, Type (II) integration is possible.

College bound students mainly study in the general high school but those not bound for college may transfer to one of the vocational high schools according to their capacity, aptitude and desire, and receive appropriate vocational education. Transfer between vocational high schools is also allowed. From the second grade, students may attend classes they choose for their major. The relationship between the different school types in a Type (II) integrated cluster is presented in Figure 3.3.

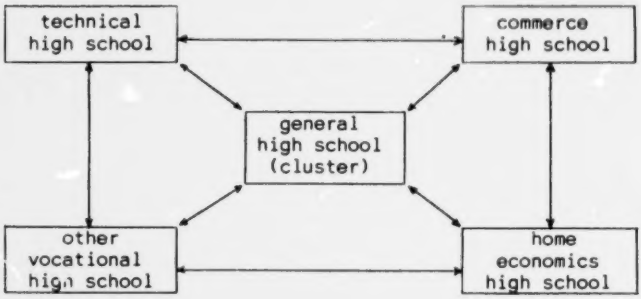

Figure 3.3. Urban type Integrated High School (II): General High School Cluster-Centered Integration

d) Combination type for particular settings

In some areas where it is found difficult to establish either of the afore-mentioned types, a combination type seems suitable. Actually it is a compromise system of 2-3 schools, with a general high school without vocational courses, a general high school with various vocational courses, and a vocational high school being put together to form an integrated system.

College bound students may either study in the general high school or in academic courses in the vocational high school. Non-college-bound students may study in the vocational high school or in vocational courses in the general high schol. It is hoped that personnel from nearby industrial complexes may be invited, especially for vocational education programmes and that a system of school-industry co-operation will emerge to enable students to utilize the industrial facilities for learning.

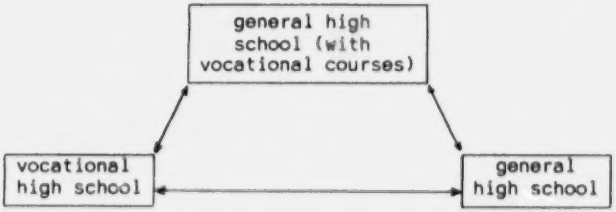

Figure 3.4. Combination-type Integrated High School for special regions

2. **Proposed curriculum structure for the integrated high school**

a) Basic policy

(1) The curriculum for integrated high schools is to be structured to allow horizontal transfer among schools and between majors. The introduction of an efficient transfer system among

similar courses is desirable. This will not only simplify and rationalize in curriculum management but is appropriate also for manpower development in a highly industrialized society.

(2) The curriculum is to be composed of common, basic and major courses. Common courses include those which aim to cultivate personal life and citizenship. Basic courses will be sub-divided into humanity and social science courses and natural practical courses, corresponding the two major course streams for which they provide the basis. Major courses will be classified into humanities, natural science, performing arts, physical education, commerce, linguistics, agriculture, industrial science, marine science, and home economics.

(3) For those aspiring to enter the humanities, performing arts, commerce and linguistics, basic courses in humanities and social science will be provided, and to those entering a major in natural science, physical education, agriculture, industrial science, marine science and home economics groups, natural and practical basic courses will be provided.

(4) The curriculum will include compulsory and elective courses. For each category of common, basic and major courses, compulsory and elective courses will be provided, with a greater variety of electives.

(5) A system of unit credits will be employed in parallel. As in the current system, "1 unit" will be equal to 50 minute-class time offered once a week for a semester (18 weeks). By adapting the unit system, students in the integrated high school can have the

freedom to transfer horizontally among schools and major with relative ease.

(6) The curriculum should reflect the unique local characteristics and career needs of students.

b) Structure

(1) Basic pattern

(a) Parallel type - common, basic and major courses are allocated to all grade levels as shown in Figure 3.5.

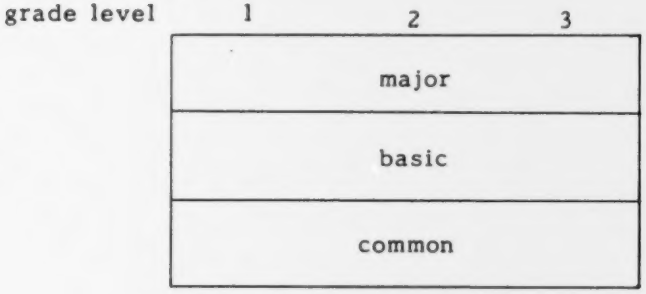

Figure 3.5. Parallel type

(b) Concentration type--only one category of courses is offered in a single year as shown in Figure 3.6.

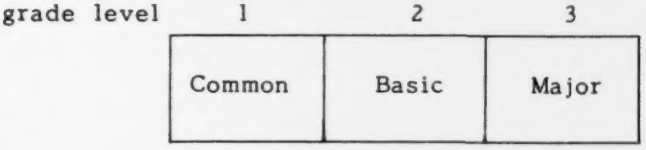

Figure 3.6. Concentration type

(c) Combination type--various combinations of the parallel and concentration type may be offered as in Figure 3.7

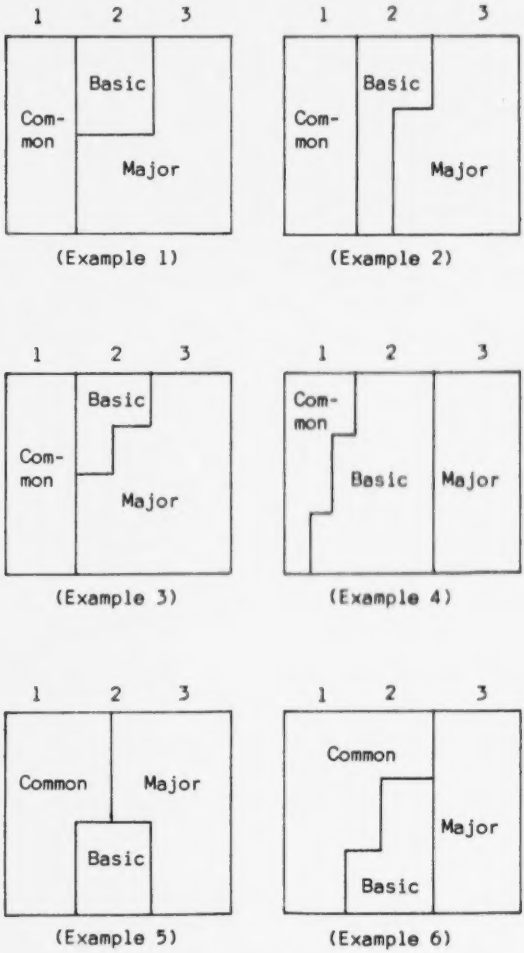

Figure 3.7. Combination type

(2) Recommended curriculum and its management

From the various combination types of curriculum presented, Example 5 combination type is recommended as the most suitable for integrated high schools. This particular type offers a more gradual progress into major courses by way of sampling and common exploration than any other type presented. The reason for recommending this particular type will become more clear as the curriculum management system for the combination type is explained.

(i) First, students are provided with a common general education in a great variety of programmes designed for exploration in the first year.

(ii) Second, prior to advancing to the second year, students' placement will be determined through selection and choice based on their aptitude, capacity, aspiration and their first year's achievement.

(iii) Third, by allowing students to receive basic courses (which are introductory to major courses) along with common courses during their first semester of the second year, students are allowed to rethink in terms of future study or occupation and, if necessary, to redirect their paths.

(iv) Fourth, during the second semester of the second year, basic courses are offered concurrently with major courses to add depth in students major studies which allows room to modify their career plan and course, if necessary.

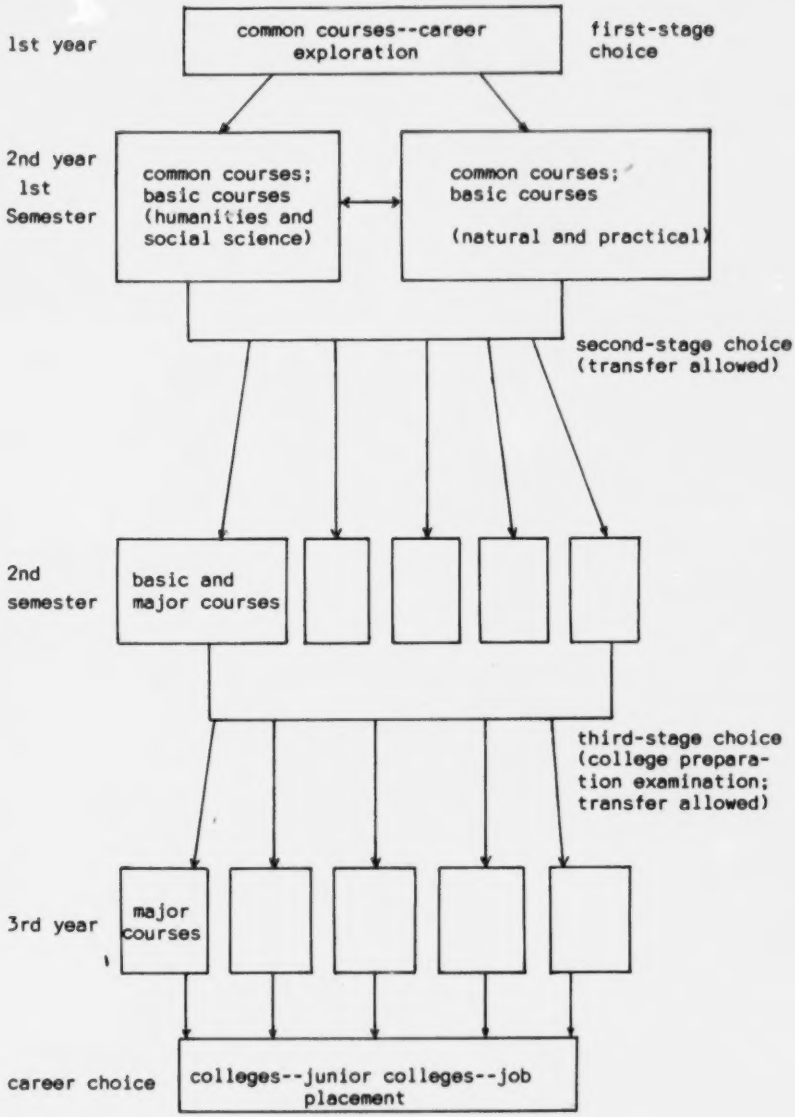

Figure 3.8. Management of the Integrated High School Curriculum

(v) Fifth, students are provided with an opportunity to sit for the College Entrance Preparation Examination and (according to the examination results) the third year course placements are determined by selection.

(vi) Sixth, by providing education in major courses during the third year only, students are served more fully in preparation for college entrance or employment.

Students wishing to enter colleges (including junior colleges) of their major study area can d so on the basis of their high school record; those not choosing to do so may enter the job market. Also provision is made to enable students of vocational courses to enter higher learning institutions of the same study area. According to the proposed curriculum, students will not only be allowed horizontal mobility between study areas according to individual desire, capacity and aptitude even after placement into study areas, but in choosing study areas will also be allowed ample time for exploration to decide upon their career.

(3) Structure (Curricular)

With due consideration given to the above points, the overall structure is as presented in Table 1.

Table 1. Structure of the Integrated High School Curriculum

year \ course / semester		common (%)	basic (%)	major (%)	Total (%)
1	1	100			100
	2	100			100
2	1	50	50		100
	2		50	50	100
3	1			100	100
	2			100	100

Common, basic, and major courses may include the following studies respectively:

Common courses: Ethics, Korean I, national history, mathematics I, physical education, military training, music, fine arts, Chinese character I, English I.

Basic courses: For humanities and social science major, basic courses include political science, economics, social cultural studies, science (an integration of physics, chemistry, biology and earth science), and practical arts.

Major courses: Comprised of subjects directly related to advancement to college or to the world of work. Humanities and social science majors for college entrance courses incude Korea II, world history, national geography, social geography, Chinese character II, English II, foreign language, and free electives. Natural and practical science major for college entrance courses include history, geography, mathematics II, physics, chemistry, biology, earth

science, English II, foreign language, and free electives. Vocational courses include agriculture and industrial and technical subjects along with fisheries, marine science, home economics and physical education.

Thailand

Information processing paradigm in secondary school

It is quite obvious that all schools modify their programmes to accommodate advancements in science and technologies. New technologies such as computers, audio-visual aids, and video facilities make traditional classroom presentation obsolete and boring. Students coming from homes equipped with TV sets and computer-game machines are unlikely to find school particularly enjoyable. Besides, the information obtained from these sources is often more up-to-date and impactful than that provided directly by the teacher. The school has to diversify its role in two aspects so that schooling will remain a worthwhile force in the communty.

First, schools have to relinquish their information-giving roles. The school is the place that is common for all students. So students should come to school for common activities. Individual learning can be done at home or through other assigned individual work. When students are together as a group, the school must capitalize on this by organizing group work rather than letting each individual do his/her own individual learning in the common classroom space.

Second, the information processing paradigm has to be included in students at an early stage. Since the new technologies tend to create an information flooding, students should be taught to process this tremendous amount of knowledge. The paradigm involves:

a) receiving information,
b) discriminating facts from opinion,
c) identifying significance of these facts,
d) relating facts (data),
e) inferring beyond data,
f) making models (synthesizing data),
g) applying a model in a new context, and
h) modifying the model.

It is firmly believed that only through these modification can schools keep a balance between the four basic developments namely, language, numerical, technological and humanistic.

Indonesia

Innovative model of general secondary education in Indonesia

With regard to the issues and trends mentioned in the preceding chapter a new model of the general secondary school curriculum needs to be introduced in Indonesia.

The proposed general secondary school curriculum will consist of two major programmes, that is, core programmes and elective programmes. The core programmes, consisting of required subjects for all students, are designed to meet the minimal requirements of knowledge, basic skills, and right attitudes. The elective programmes encompass several different kinds of programmes to cater to the needs of different target groups, according to the demands of the local regions and taking into consideration the potential of the individual.

Especially for the upper general secondary school, elective programmes may consist of two categories of programmes, those for students who have the ability to pursue further studies at higher learning institutions, and those for students who have interest and aptitude to take various kinds of intensive

vocational studies relevant to other settings of life in the community. The latter programmes are geared primarily to preparing students for employment directly upon completion of secondary education as well as those who wish to go to academics, polytechnics, and other non degree programmes before working. (Compared with graduates of vocational schools, graduates of general schools master more basic knowledge but fewer specific competencies.)

Western Australia

Vertical timetabling and the unit structure

As part of a major restructuring of the lower-secondary curriculum in Western Australia schools it has been decided to:

a) restructure all syllabuses (in core and option subjects)in terms of term- or semester-length units;

b) introduce a system of criterion-referenced assessment such that promotion from one unit to a later one in its sequence would depend on mastery of the first; and

c) abandon the practice of grouping children by Year level and allowing instead a child to progress at his or her own rate, independent of the pattern of progress by others of the same age.

The last of these proposals is expected to be met by the introduction of **vertical timetabling**. Whereas the emphasis has until now been on cross-setting to allow regrouping of children separately for each core subject within an age group, vertical timetabling allows students to be grouped on the basis of interest and achievement, but without restriction on age. Combined with a measure of cross-setting this will mean greater individualization of student programmes and the opportunity for accelerated or decelerated progress within a subject. The opportunities the

structure can provide for back-tracking to pick up or consolidate prerequisite achievement levels for a given subject will overcome the tendency for weaker or late-maturing students to become entrapped in lower levels, and remedial units can readily be incorporated without the need for formal withdrawal arrangements. Taken together, these improvements are expected to enhance student motivation and challenge and remove some of the alienating effects of repeated failure and humiliation among the weaker students.

An important advantage of the term-length unit structure is that it provides the student with comparatively short-term goals and thus a more identifiable incentive system. At the same time, it multiplies substantially the opportunities a student will have to choose other subjects or to repeat modules of work where necessary.

Two potential dangers in the proposed model are recognized. First, unrestricted choice by the student could easily result in programmes which lack continuity of content and systematic development as a base for further study. Second, the underlying emphasis on a broadly balanced general education for all students would be threatened by the possibility that a student would seek to specialize too early or to develop a preoccupation with too narrow a range of subjects. However, the seven-area structure of the grades VIII-X curriculum and the insistence that all students maintain some emphasis on each of the areas, is seen as an adequate guarantee of breadth and balance. It is also proposed that sequentially-related series of developing units be designed in each curriculum component. These are expected to provide a sound basis for later study beyond grade X and progressive development in subjects where continuity of experience and mastery of sequential material to significant depth is necessary.

India

Vocationalization of higher secondary education in India - an innovative model

Vocationalization of higher secondary education was considered to be one of the major planks of 10+2+3 pattern of education according to the Education Commission of India (1964-1966). It was felt that if large numbers of students could be channeled at this stage into meaningful courses, it would encourage self-relience and would also help to raise productivity. In the absence of such a diversification, the country may have no choice but to provide for more expensive and often unproductive higher education on a much larger scale. A recent survey has revealed that vocationalization of higher secondary education has, however, so far been introduced only in nine States and three Union Territories. The current intake is of the order of only 50,000 students in more than 1,500 institutions. The schools in the remaining thirteen States and six Union Territories still remain unaffected by vocationalization.

It is recognized that vocationalization of 'plus two' (i.e. classes XI and XII) is a national imperative for an effective correction in the supply system of manpower to keep pace with the planned developmental activities, as reiterated recently by the Working Group on Secondary Education for the **Seventh Five-Year Plan**. The Working Group has recommended introduction of vocational courses in 400 higher secondary schools per year i.e. 2,000 schools during the **Seventh Five-Year Plan** (1985-1990) on a 100 per cent central-assistance basis. In addition, vocationalization is also proposed to be introduced in 1,000 schools per year with the help of other resources.

The Education Commission had envisaged that about 20 per cent of enrolment at the lower secondary stage, and about 50 per cent of that at the higher secondary stage, would be in vocational education.

New models of secondary education

Due to an impression in the minds of many parents that vocational courses are inferior educationally and also because the vocational courses required a lot of funds, progress in vocationalization has not been satisfactory.

However, of late, a new impetus has been given to the programme for vocationalization of higher secondary education. The state of Tamil Nadu has in the last couple of years made tremendous progress in this sphere. There are 30,000 students who are enrolled for different vocational courses at the 'Plus Two' stage. The Government of India, in its recent meeting of the Central Advisory Board of Education, has emphasized the importance of vocationalization of higher secondary education. The conference of Education Ministers of all the States and Union Territories held this year in Delhi has also accepted the need for giving a strong push to the vocationalization programme.

Some of the main features of the programme of vocationalization are as follows:

a) Vocationalization has to be introduced in the general higher secondary schools.

b) There should not be any duplication with the existing Industrial Training Institutes and Polytechnics.

c) Vocational courses should be introduced in higher secondary schools along with the acadeic courses and the students should have the freedom to choose subjects either from vocational spectrum or academic spectrum or from both.

d) Vocational surveys should be conducted at the district level and the vocational courses having a large potential for job-opportunities or self-employment should be preferred.

e) Horizontal and vertical linkages should be established with the employing agencies

and other departments like the small scale Industries Department, Banks and Co-operative Societies in planning the curriculum for vocational courses; in teaching and preparation of instructional materials, and in practical work and evaluation of students.

f) Prior action should be taken to ensure that a higher secondary exam certificate with vocational subjects is duly recognized by government departments, public sector undertakings and others for employment.

g) These should be a provision for vertical mobility of the students who pass out with vocational courses, so that the vocational stream does not become a blind alley.

h) Special effort should be made to see that the product of the vocational stream is suitable from the point of view of development of required skills. The Government has recently amended the Apprenticeship Act to cover the vocational students of higher secondary schools so that they may be able to undertake apprenticeship on-the-job.

i) Part-timne teachers may be employed if necessaary to teach vocational courses.

j) Since there is a danger of the equipment for vocational courses becoming obsolete at an early date due to rapid advances in science and technology, such courses should be chosen which do not require heavy investments in workshops and equipment. There are a number of courses in the trade, marketing, advertising, insurance, packaging, paramedical, art and sculpture, etc. which do not need large investment.

k) In view of the fact that vocational courses are more practice-oriented, new methods of evaluation of students should be adopted. There should be continuous evaluation of the

student's work and it should count for the final certification.

An Operational Model of Vocationalization of Higher Secondary Education in India

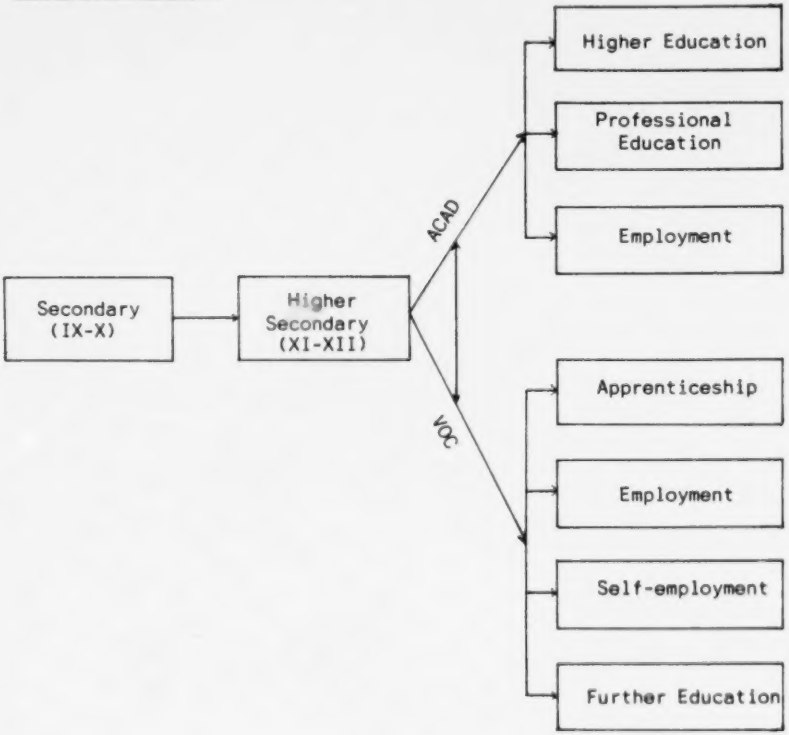

Figure 3.9.

Vocationalization and development

The Sixth Five-Year Plan (1980-1985) argued that one of the important links between education and development is provided by manpower development through vocationalization of secondary education related to employment. This has to be carefully designed, based on detailed surveys of existing and potential work opportunities and of available

educational and training facilities. It should also keep in view the specific roles and responsibilities of the different agencies and ensure co-ordination at the operational level between the developmental programmes and the educational system. Such a differentiation would normally commence after the secondary stage and may cover a varying period depending upon the vocational area, groups of occupations and the nature and level of skills needed. It envisages a deepening of the practical bias in the school education to be supplemented by appropriate apprenticeship in the field, farm or factory situation. It is not necessary to follow a rigid sequence in the order of acquiring the several skills and it should be possible to supplement exclusive vocational training courses. Suitable linkages need to be established within a system for occupational mobility and career development over one's employment/working life. For the provision of relevant practical skills, agencies like **Krishi Udyog** and **Van Vikas Kendras** and other vocational training centres would be utilized, particularly for learning-by-doing. Similarly, experienced craftsmen and practitioners of the arts would be used for imparting operational skills without undue insistence on pedagogic certificates. Wherever new facilities are to be created, they would be located, to the maximum extent possible in the rural areas.

During the **Seventh Five-Year Plan** (1985-1990), it is expected that the central Government will provide some central assistance to the states to enable them to introduce vocationalization on a longer scale and in a systematic way. Emphasis is also being given to **Socially Useful Productive Work** (SUPW) in the elementary and secondary classes up to X in order to inculcate in the minds of young children respect for manual work. SUPW, is intended to develop proper attitudes. Although SUPW is not considered as pre-vocational training, it is expected to help in making the programme of vocationalization at the higher secondary stage a success.

Curriculum of vocational courses

The National Review Committee on Higher Secondary Curriculum (1978) had given careful thought to the nature of the curriculum which should be pursued at the higher secondary (plus two) stage. It suggested that apart from a language (which may be chosen) from the given list of recognized languages, the vocational stream should include as a compulsory core, the General Foundation Course. Electives could be offered depending upon the aptitude of the student and the facilities available in the school. Seventy per cent of the time is to be devoted to the intensive study of the vocational course, out of which the practicals would constitute about fifty per cent. Of course, suitable modifications could be made in the allocation of time for theory and practice according to the requirements of the subject. This scheme of vocationalized curriculum is more or less in vogue in different states. There is a lot of flexibility in designing curriculum for different vocational courses, as any rigid pattern would defeat the purpose of vocational courses becoming effective means for increasing employability and productivity of the students.

The above model of vocationalization of higher secondary education is in line with the government's overall policy of linking education with work and providing an opportunity to the students to enter into the world of work at the end of the higher secondary stage. Orientation of teachers, administrators and parents in the usefulness of the vocational courses will, it is hoped, have desirable results and make the scheme a success.

Chapter Four

A SCHEME FOR PLANNING AND EVALUATION

Introductory remarks

The following scheme assumes a context in which an innovative model is to be designed, implemented on a trial or pilot basis, and then evaluated to assess its appropriateness for wider adoption. For a number of the participating countries this assumption will not be applicable because decisions about widespread adoption have already been taken on other grounds. In such cases the scheme could not be applied in any complete sense and many of its suggested elements would have to be revised or omitted. Nevertheless, the scheme is included here as an ideal which, in favourable circumstances could serve as an organizing framework for planning and evaluation. It is assumed that participating countries will critically assess the extent of its usefulness in their own contexts and select those aspects which are relevant to the nature and stage of development of their projects and are consistent with the resources available. The scheme is presented simply as an aid to assist project planners and evaluators to focus on questions, issues or tasks which may be relevant at different stages in the implementation, monitoring and formal evaluation of their project.

Some preliminary reminders

1. Effective innovations demand careful planning.
2. We can't plan sensibly unless we have a clear idea of where we want to go.
3. Even the best of plans can go awry -- continuous monitoring during implementation is vital to effective management.

4. The sooner we know how the project is going the better -- formative evaluation should begin as soon as possible.

5. It is better to invest resources in formative evaluation designed to ensure success than to rely simply on summative evaluation to judge success after the fact.

6. Effective evaluation is committed, first and foremost, to providing data that is useful to those with decision-making responsibilities concerning the project.

The planning and evaluation

The first part of the scheme is presented as a set of tasks which may be relevant to the needs assessment, planning and evaluation of a project. Under each of the tasks at each stage is a set of questions which are meant to illustrate what issues could be used to focus and direct the task. The list of questions is not exhaustive, and each would probably require some further translation to the particular context of a given project.

The second part of the scheme is in the form of a matrix relating the purposes or objectives of evaluation at different stages of a project to the kinds of evaluative data needed and the instruments or methods appropriate for obtaining the data.

The tasks of planning and evaluation

a) Needs assessment and objectives

Systematic needs assessment involves:

(1) Clarify desired outcomes

- Are we clear about the specific improvement or outcomes that are sought?
- Can these be expressed in simple unambiguous terms understood by those to be involved in planning and evaluating the project?

- Is there sufficient consensus on the validity and importance of the intended outcomes?

(2) Separating means and ends

- Is it clear which of our intentions are outcomes to be achieved and which are ways proposed to get us there?
- Are we moving too quickly in deciding on the means to our ends before assessing other possibilities?

(3) Setting outcome priorities

- Are we able to agree on which of the outcomes is most important to us?
- If resources are scarce, could any of the outcomes be abandoned or deferred without jeopardizing the primary outcomes?
- In what way(s) are the different outcomes related to one another -- are some essential as enabling conditions for others?

(4) Measuring 'what is' for the intended outcomes

- Where do we (the students, the system etc.) stand at present as far as the desired outcomes are concerned?
- Can we accurately measure the relevant variables (e.g. current achievement levels, etc.) before the innovation is implemented?

(5) Identifying gaps between 'what is' and 'what should be'

- Can we describe the difference between where we are now and where we want to be on each of the desired outcomes?

- Which of these differences is sufficiently great to demand major innovative attention?
- Are the gaps such that we have a realistic chance of chosing them?
- How far is it realistic to try to go?

Setting objectives involves

(1) Setting realistic targets

- What intermediate steps toward the eventual goal are realistically possible in the present context?
- Can we establish specific target improvements appropriate to different stages in the life of the project?
- What rsources can we reasonably expect to have available to implement the innovation?

(2) Distinguishing between proximal and longer term goals

- Which short term outputs will be necessary if the longer term goals are to be achieved?
- Will it be possible to evaluate early the project against the necessary short term (interim) goals?
- At what stage will it be possible to assess the impact of the project on the long term goals?
- Will it ever be possible to evaluate acheivement of the long term goals or will we have to be satisfied with evaluating the interim goals?

b) Planning

Systematic planning involves

(1) Being clear about the objectives and the basis for the selecting the means (processess and structures) to achieve them.

- What alternative models or strategies could be proposed?
- On what basis should we choose between them?
- Can we estimate the costs and the likelihood of success of each alternative?
- Which alternative is most consistent with existing human and other resources?

(2) Identifying and securing needed inputs

- What resources (all kinds) will be needed to implement the project?
- Where will the resources be found?
- What 'non-cost' resources are available in the community?
- How could these community resources be mobilized?
- What retraining will be needed?
- How will this be achieved?

(3) Developing implementation plans

- Can we break the implementation task into a number of sequential phases?
- Can these be effectively placed within the overall time line for the innovation?
- In what ways are the different phases related to one another?
- Can any aspects be implemented concurrently?

- Can we depict the relationships between the various phases in the form of a timed flow-chart?

(4) Establishing base-line data

- Is it feasible/necessary to gather base-line data at this stage?
- How much of this is already available from the needs assessment data?

c) **Implementation and evaluation**

Effective formative evaluation involves

(1) Being clear about the purpose of the evaluation

- What data should be gathered to allow ongoing monitoring of the project against the goals being sought (outcomes) and the fidelity of implementation (inputs and processes)?
- How will this be fed back into the project so that improvements or modifications can be made in good time?

(2) Being clear about the foci of formative evaluation

- Will we be able to identify and measure to beneficial effects of the project?
- How will we assess whether the implementation is going ahead as planned?
- How will we stay alert to unwanted side-effects?

(3) Being clear about the specific aspects or variables which should be monitored

- What indicators should we monitor to assess desired and potentially undesirable outcomes?

- What indicators should we monitor to assess the fidelity of implementation of the project?
- What will be the available sources of data for each of these indicators?
- How will we monitor the costs and resource-flow demands of the project each stage?

(4) Choosing efficient methods for gathering the necessary data

- What would be the simplest and cheapest way of obtaining data on each of the indicators?
- Will the data be amendable to speedy and simple tabulation for feedback or analysis purposes?
- Do we have the expertise to adequately monitor costs?
- What resources would be needed for observation interview and feedback questionnaire design?
- Do we have adequate tests or other instruments to monitor student achievement during the trial?

Effective summative evaluation involves

(1) Measuring and evaluating outcomes

- Can we reliably and validly measure each of the priority outcomes?
- Can we estimate the costs and resources consumed in achieving these outcomes?
- Are we satisfied with the level of achievement on each of the priority outcomes?
- Have the gains been commensurate with the costs involved?

(2) Comparing the new with the old

- Is the innovation significantly better than the old model to justify the cost and disruption involved?
- Is 'staying with the old' a realistic alternative if the innovation is found to be ineffective?

(3) Assessing potential for widespread adoption

- Under what conditions did the innovation demonstrate its effectiveness?
- Can we reasonably assume the same conditions will apply under widespread adoption?
- What costs would be associated with widespread adoption?
- Do we have the human resources needed for effective adoption on a universal scale?
- Can we phase-in the general adoption of the model?
- What could sensibly be attempted next year?
- What would be needed to extend the adoption progressively over the coming years?

Evaluation Design Matrix

Statement of Purposes Objectives and Anticipated Conditions	Verbal Description of the Stage of Success (including criteria)	Variable Adequate to Describe the Successful Stage	Instruments and Sources of Data
Impacts (Purposes) a) Statement b) Condition			
Products (Outputs) a) Statement b) Condition			
Milestones (Process) a) Statement b) Condition			
Readiness (Inputs) a) Statement b) Condition			

Chapter Five

FUTURE CO-OPERATIVE ACTION

General guidelines

1. Objectives

The countries involved in restructuring their secondary education programmes should establish a network of centres and studies aimed at developing alternative models of secondary education to suit each country's critical needs. The participating countries should co-operate to exchange materials and develop curricula and exemplar materials which might be examined, evaluated and adapted for use.

2. Design and plan

a) Formulation of a network among the countries interested, and/or engaged, in restructuring their secondary education programmes is the first step to be taken.

One unresolved issue which remains at this stage concerns the optimum number of countries to be involved. Should more countries be added to those participating in the Task Force Meeting? If so, how can they be encouraged to join? What is the optimum number of countries needed to comprise a functional and efficient network or team. It will be important to consider these questions early if new participants are to be able to take part in the planning phases.

b) Modalities for co-operation, exchange and interaction among participating countries could include, inter alia:

(1) Planning and monitoring

(a) A number of meetings over the duration of the co-operative study to assist participants to plan, implement and monitor their innovative projects.

(2) Study tours and personnel exchange

(a) Inter-country exchange of resource persons

(b) Systematic exchange of information and experiences

(c) Attachment and internship programmes

(3) Co-operative development

(a) Joint workshops for curriculum and instructional material development

(b) Co-operative development of evaluation models, instruments and reporting formats

(c) Co-operative development and joint publication of evaluation reports

(4) Pilot projects

(a) Establishment of pilot institutions to try out new models and structure

(b) Study groups or task forces to establish designs for pilot implementation

c) Since the proposed study aims at the improvement of secondary education through the development and implementation of innovative models, sufficient time must be allocated for each participating country to cover all stages of planning, implementation, evaluation, and possible adoption of the innovation for nation-wide application.

d) While the major portion of expenses should be borne by the governments of the participating countries, co-operative endeavour to several additional financial support may be necessary to facilitate the functioning of the network.

e) As a way of identifying those issues or features of the various innovations on which exchange of information or co-operative work is desirable, each participating country is asked to consider and report on their own strengths and needs in relation to the following aspects or stages of the innovation process:

(1) Planning and development

(a) Determining the philosophy and purposes of secondary education in the context of the country's critical needs.

(b) Setting priorities among the identified purposes and objectives.

(c) Formulating or conceptualizing new structures or models to fulfil those purposes.

(d) Planning to implement an innovative model.

(e) Management of an innovative project.

(f) Identifying values and attitudes of educators and others which may hinder innovation.

(g) Systematic curriculum development.

(h) Preparation of instructional materials and other facilities.

(2) Implementation

(a) Training and recruitment of specialist personnel (especially for vocational teaching).

(b) Estimating and securing needed financial resources.

(c) Utilizing educational technology.

(d) Securing co-operation from other ministries and social agencies needed for effective introduction of the innovation.

(e) Identifying and mobilizing available community resources.

(f) Securing inter-institutional co-operation and co-ordination.

(g) Diffusion strategies.

(3) Monitoring and evaluation

(a) Identifying appropriate models and methodologies for formative and summative evaluation.

(b) Carrying out formative and summative evaluations.

(c) Performing cost and cost-benefit analyses.

(d) Reporting on the innovation.

(4) Curriculum themes or emphases

(a) Work experience models for secondary education.

(b) Vocational and personal awareness

(c) Education in science and technology

(d) Moral education and values clarification.

(e) Promoting effective concept learning.

(f) Life skills development.

f) ACEID should exercise a co-ordinating function in

(1) Organizing and sustaining the network for co-operation and excange.

(2) Facilitating the activities carried out by participating countries.

Plan for further co-operative action

It is envisaged that sometime in 1986 there will be a regional workshop to review and synthesize the progress made by each of the participating countries in developing their innovative models of secondary education. Prior to this, and as part of the overall plan for co-operation and exchange between the participating countries, each participant will be responsible for:

1. Preparing a national inventory of innovative projects/activities related to the development of alternative models for secondary education (The inventory might include innovative projects in curriculum development related to the design of instructional materials, educational media, educational facilities, learning modules, assessment and evaluation instruments, etc. The inventory should be completed by mid 1985).

2. Preparing in-depth case studies of innovative projects related to particular aspects of secondary education. (Examples could include the vocationalization of secondary education, programmes to link education and the world of work, vocational and technical education, etc. These studies should be carried out in 1984/1985, and reports should be available by mid 1985.)

3. Conducting in his or her own country a national workshop for the purpose of:

a) developing and refining proposals and designs for innovative projects in secondary education, and

b) scrutinizing and updating the national inventory and finalizing the reports of the in-depth case studies.

(This workshop should be held sometime in the latter half of 1984 or early in 1985.)

4. Participating, where appropriate, in mobile training workshops and study visits in the participating countries for the purpose of exchanging ideas and experiences related to the new models of secondary education being tried in the different countries (1984-1986).

5. Facilitating, study visits, special attachments or internships in his or her own country for persons elsewhere in the region who may be interested in the host country's innovative projects or models (1984-1986).

6. Facilitating the exchange through APEID, of information, personnel and relevant materials among the participating member countries.

7. Participating during 1985 in an interim regional workshop on the co-operative development of new models for secondary education.

Chapter Six

FOLLOW-UP ACTION BY INDIVIDUAL COUNTRIES

During the course of the meeting the participants developed, by way of follow-up tentative action plans relevant to their specific needs. These are outlined below:

India

Training of key personnel for implementing the programme of vocationalization of higher secondary education in India

1. Introduction

The Government of India has of late given a high priority to the programme of vocationaliation of higher secondary education ('plus two' stage, constituting classes XI and XII). Although the Educational Commission (1964-1966) had recommended vocationalization of higher secondary education, not much could be done in this sphere until a few years ago. Even now, there are only 50,000 students offering vocational courses in general higher secondary schools throughout the country. With the new emphasis given to Linking Education with Productivity in the Approach in the Paper for the Seventh Five Year Plan (1985-1990), the programme of vocationalization assumes added significance for reducing unemployment and increasing productivity in the country.

2. Objective

The main objective of the proposed action for the future is to arrange training of key personnel in charge of vocationalization of higher secondary

education in the States and Union Territories.

It is expected that the training will enhance the capabilities of these officers to manage the programme of vocationalization in a more efficient way. It will also enable the trained persons to serve as resource persons and train subordinate officers in their respective regions.

3. Strategy for action

A few training programmes will be organized for the concerned personnel so as to equip them with the necessary knowledge and skills in the planning and management of the vocationalization.

4. Agencies concerned

The training programmes will be conducted under the auspices of the National Institute of Educational Planning and Administration (NIEPA), New Delhi. Co-operation and help wil be sought from the sister agency, the National Council of Educational Research and Training (NCERT), New Delhi.

5. Time

A few training programmes specially designed for the purpose are proposed to be organized during 1984-1985, and 1985-1986. Besides, some element of training will also be incorporated in the on-going programmes of training for District Education Officers.

Thailand

A survey of relationship between curriculum objectives and achievement

It is proposed that a survey be conducted to learn more about the relationship between the structure of the curriculum and the degree to which it has been successfully implemented. Of particular interest is

data on the balance between emphases on the four learning components; Language, Numerical, Technological (Thinking) and Humanistic. The need to determine the optimum proportion among these four components in producing a humanistic matured personality for all citizens is of the highest priority.

If possible, documents concerning the curriculum structure in several countries within and outside the region will be acquired. If funds are available, visits to some selected countries where the successful implementation is evident will be very helpful. In such cases, case studies will be done to search for a legitimate model for future development.

Japan

Organization of discussion meetings

The report of the Task Force Meeting will be distributed to selected members of staff of National Institute of Educational Research and a series of meetings will be held with participation of staff of research on educational planning and staff of the Asian section of NIER. This meeting will discuss issues and trends of secondary education in Japan and possible future collaboration of joint studies on secondary education with the participating countries.

Republic of Korea

Proposed national seminar

1. Background

The new model of secondary education under discussion was proposed by a research team of the Korean Educational Development Institute in 1980 in the hope of restructuring the present system of secondary education. The existing system has been criticized by many educators as well as the public as being inadequate to meet the varied needs of individual students. The proposal for the new model

was a response to such dissatisfaction. However, for some reasons, the proposal was not brought to the attention of policy makers and influential educators. It is therefore desirable to bring this model to the policy makers, educators, and the public for serious consideration. A national seminar for the discussion of the new model could be a significant first step toward the restructuring of secondary schools in Korea.

2. Objectives

The objectives of the seminar are:

a) to arouse awareness on the part of the policy makers, educators and the general public, of the need for restructuring the present system of secondary education;

b) to stimulate policy makers to search earnestly for alternative models;

c) to have the proposed model fully discussed, critically examined, and supplemented or revised so that an improved model will emerge in the seminar;

d) to discuss and plan possible ways of trying out the new model.

3. Major strategy and procedures

a) Formation of a planning group

It seems desirable to invite some key personnel to form a planning group for organization of the seminar. They may be the research team leader who is responsible for the proposed model, an administrator of the agency to conduct the seminar (KEDI representative), a ministry official in charge of secondary education, and the NDG Chariman.

b) Development of a detailed programme for the seminar

Participants: There will be 15 to 20 participants including ministry officials, secondary school personnel, scholars in education and other related areas, and people representing mass communication.

Procedures : Presentation of the new model will be followed by discussions by designated discussants and free exchange of ideas among seminar members. The proceedings will be published for further discussion and dissemination purposes.

Date : It will be a one day seminar to be held either in the Fall or during the Winter vacation of the 1984 school year.

Indonesia

Introduction of computing courses in General Senior Secondary Schools (SMA)

1. Background information

The number of enrolments of General Senior Secondary Schools (SMA) keeps increasing rapidly every year. Most of SMA graduates want to pursue further education at the higher learning institutions, but the fact is that only a small percentage of them can be admitted at universities or institutes.

The 1984 SMA curriculum provides various kinds of elective programmes (B programme) that are meant primarily for those SMA graduates who will prepare themselves for the world of work after graduation, rather than continuing to the higher level of education. In planning and implementing those programmes we should take into consideration the problems of overall jobs structures as well as the social

attitudes or value system prevailing in the community Computing is one of the B programmes that hopefully will have a good prospect in the future and at the same time is likely to attract younger people.

2. **Objectives**

The computing courses are designed to:

a) provide students with programmes that will attract them;

b) provide students with knowledge and skills in computer use, especially in the fields of commerce, services, and industries.

3. **Strategies**

a) Planning of the programmes

It is necessary to start the programmes with selected SMA's or regions. Surveys will be conducted to identify the regions in which computer has been widely used as well as to identify the types of skills and equipment required. Instructional programmes can then be developed, based on the results of the surveys.

b) Management

In implementing the programmes, the schools need to establish co-operation with existing local computer training centres to ensure:

(1) provision and training of instructors;
(2) development of adequate training programmes;
(3) support for maintenance of soft-ware and hardware.

c) Equipment

The equipment to be provided in schools will be chosen to adhere to those utilized by the end users of SMA graduates.

d) Evaluation

At the early stage, efforts should be focused on internal evaluation of the plan, the process as the interim products. Later on, some kind of external evaluation needs to be conducted before large scale implementation.

4. Time schedule

The proposed schedule for the development of the programme is as follows:

1984/1985 -- Planning (needs assessment, development of instructional programmes)

1985/1986 -- Provision of hardware, training, etc. and first year of implementation in schools.

Annex I

AGENDA

1. Inaugural Session

2. Election of Officers of the Meeting

3. Consideration of the Agenda and Provisional Schedule of Work

3. Country reports on new models of secondary education

5. Guidelines for co-operative development and implementation of new models of secondary education

6. Guidelines for appraisal of models of secondary education

7. Plan for future work by individual participants

8. Consideration and adoption of the Draft Report of the Meeting and closing of the Meeting

Annex II

LIST OF PARTICIPANTS AND OTHERS ATTENDING

India	Dr. R.P. Singhal Consultant National Institute of Educational Planning and Administration 17-B, Sri Aurobindo Marg New Delhi 110016
Indonesia	Prof. (Dr.) Conny Semiawan Director, Curriculum Development Centre Office of Educational and Cultural Research and Development Ministry of Education and Culture Jakarta
	Prof. (Dr.) Benny Soeprapto Director of General Secondary Education Ministry of Education and Culture Jakarta
Japan	Mr. Hideo Iwaki Researcher National Institute for Educational Research 6-5-22 Shimomeguro, Meguro-ku Tokyo
Republic of Korea	Dr. Yung Dug Lee Professor of Education College of Education Seoul National University Seoul 151
Thailand	Dr. Kowit Pravalpruk Director Office of Educational Assessment and Testing Service Department of Curriculum and Instructional Development Ministry of Education Bangkok

1. **Resource persons**

Australia Dr. A.S. Ryan
Acting Dean
Faculty of Education
Australian Institute of Technology
Perth

2. Observers

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Secretary
Office of Educational and Cultural
Research and Development
Ministry of Education and Culture (MOEC)

Dr. R. Ibrahim
Head
Centre for Research and Development in
Examination System
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Mr. Benny Karyadi
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Head,
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Sub-Directorate, Reform Development in
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Directorate, General Secondary Education
DG, Primary and Secondary Education
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3. **Unesco Regional Office for Education in Asia and the Pacific**

Dr. Hyun Ki Paik
Specialist in Training Educational Personnel
(ACEID)

4. **Organizing Committee**

Chairman	:	Mr. Soegiarto
Secretaries	:	Ms. Nurmala Mokodompis Ms. Ainun Salim A.
Treasurer	:	Mr. Agus Salim
Accommodation and Transportation	:	Mr. Oetomo Masno Mr. Karya
Typists	:	Ms. Sri Sartini Kardjono Mr. Sugiman A. Kasduri Mr. Achir Djafar
Assistant Rapporteurs	:	Ms. Greta C. Librata Ms. Mahar Mardjono Ms. Sri Asmaningsih Renadi
Reproduction	:	Mr. Yulius Joni

Annex III

LIST OF DOCUMENTS

ROEAP-84/APEID.TFM.SE/INF.1	-	General Information Paper
ROEAP-84/APEID.TFM.SE/1	-	Agenda
ROEAP-84/APEID.TFM.SE/2	-	Provisional Schedule of Work
ROEAP-84/APEID.TFM.SE/3	-	Overview of the Beazley Committee of Inquiry, by Dr. A.S. Ryan (Australia)
ROEAP-84/APEID.TFM.SE/4	-	New Models of Secondary Education: The Indian Experiences, by Dr. R.P. Singhal
ROEAP-84/APEID.TFM.SE/5	-	Indonesian Country Report on Curriculum 1984, by Dr. Conny R. Semiawan and Dr. Benny Soeprapto Brotosiswoyo
ROEAP-84/APEID.TFM.SE/6	-	Japanese Secondary Education: Problems and New Directions, by Mr. Hideo Iwaki
ROEAP-84/APEID.TFM.SE/7	-	In Search for an Alternative Model of Secondary Education of Korea, by Drs. Yung Dug Lee, Byong Sun Kwak and Jeoung Keun Lee
ROEAP-84/APEID.TFM.SE/8	-	Development of Secondary Education in Thailand, by Dr. Kowit Pravalpruk

LIST OF SELECTED APEID PUBLICATIONS RELATING TO TRAINING OF EDUCATIONAL PERSONNEL AND CURRICULUM DEVELOPMENT

* *Implementing curriculum change. 1977.*
* *Educational policy, curriculum development and implementation. 1978.*
* *Developing instructional modules for teacher education: selected exemplar modules. 1978.*
* *Teacher education: directions of change. 1979.*
* *Universalizing education: strategies for development and use of instructional materials. 1979.*
* *Universalizing education: selected innovative experiences – new techniques for preparing educational personnel. 1980.*
* *New personnel profiles in relation to changes in society and educational systems. 1980.*

Social change and new profiles of educational personnel. 1981.

Distance learning for teacher education (3 volumes). 1982.

In-service primary teacher education in Asia. 1982.

Multiple class teaching and education of disadvantaged groups: national studies. 1982.

Integrating subject areas in primary education curriculum – a joint innovative project. 1982.

* *Curriculum development, by Malcolm Skilbeck (APEID Occasional Paper No. 9, February 1982)*

Language development and intellectual functioning, by Kevin F. Collis (APEID Occasional Paper No. 10, July 1982)

Social change and training of educational personnel. 1982.

Training educational personnel for integrated curriculum; report of the Sub-regional Seminar. 1983.

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* Out of stock

BEST COPY AVAILABLE

The Asia and Pacific Programme of Educational Innovation for Development (APEID) [illegible] the purpose of [illegible] the building up of national capabilities for undertaking educational innovations linked to the problems of national development thereby improving the quality of life of the people in the Member States.

All projects and activities within the framework of APEID are designed, developed and implemented co-operatively by the participating Member States through over one hundred national centres which they have created for this purpose with APEID.

The 25 Member States participating in APEID are Afghanistan, Australia, Bangladesh, China, Fiji, India, Indonesia, Iran, Japan, Lao People's Democratic Republic, Malaysia, Maldives, Nepal, New Zealand, Pakistan, Papua New Guinea, Philippines, Republic of Korea, Samoa, Singapore, Socialist Republic of Viet Nam, Sri Lanka, Thailand, Tonga and Turkey.

Each country has created a National Development Group (NDG) to identify and support educational innovations for development within the country and facilitate exchange between countries.

The Asian Centre of Educational Innovation for Development (ACEID) is an integral part of the Unesco Regional Office for Education in Asia and the Pacific. It [illegible] the activities under APEID and assists the Associate Project Officers in planning, [illegible]

The common areas under which the APEID activities are organized during the third cycle (1982-1986) are:

1. Universalization of education; access to education at first level by both formal and non-formal means;
2. Education for promotion of scientific and technological connections and creativity;
3. Education and work;
4. Education and rural development;
5. Educational technology with stress on mass media and low-cost instructional materials;
6. Professional support services and training of educational personnel;
7. Co-operative studies and innovative projects; [illegible] and research based experiments related to educational development.